

What is claimed is:

1. A method for recovering a titanium compound, comprising bringing a waste solution containing a titanium alkoxide into contact with a halogenating agent to convert 5 the titanium alkoxide to a titanium halide and then distilling the solution containing the titanium halide to recover the titanium halide from the solution.

2. A method for recovering a titanium compound, comprising distilling a waste solution containing a titanium alkoxide and a titanium halide to recover a part of the titanium halide from the waste solution, bringing a residue in distiller given after the distillation into contact with a halogenating agent to convert the titanium alkoxide to a titanium halide 15 and then distilling the solution containing the titanium halide to recover the titanium halide from the solution.

3. The method for recovering a titanium compound as claimed in claim 1 or 2, wherein the waste solution is a solution 20 formed when a catalyst for polymer production or a catalyst component for polymer production is prepared.

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4. A process for preparing a titanium halide, comprising bringing a waste solution containing a titanium

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alkoxide into contact with a halogenating agent to convert the titanium alkoxide to a titanium halide.

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5. A process for preparing a titanium halide, comprising distilling a waste solution containing a titanium alkoxide and a titanium halide to recover a part of the titanium halide from the waste solution and bringing a residue in distiller given after the distillation into contact with a halogenating agent to convert the titanium alkoxide to a 10 titanium halide.

6. The process for preparing a titanium halide as claimed in claim 4 or 5, wherein the waste solution is a solution formed when a catalyst for polymer production or a catalyst 15 component for polymer production is prepared.

7. A process for preparing a catalyst for polymer production, comprising using the titanium halide obtained by the process of any one of claims 1 to 4 to prepare a catalyst 20 for polymer production.

8. The process for preparing a catalyst for polymer production as claimed in claim 7, wherein the polymer is a polyolefin.